

CLAIMS

I claim:

1. A composite tool coating method for a tool service area having a tool service area thickness and tool serviceability requirements, said method comprising:
 - preparing said tool service area for coating, said tool service area having a beginning said tool service area thickness;
 - plating at least one layer of plate coating material to said prepared tool service area, said at least one layer of plate coating material having a plate coating thickness, a plated service area thickness equaling said beginning tool service area thickness plus said plate coating thickness; and
 - spraying at least one layer of spray coating material to said at least one layer of plate coating material, said at least one layer of spray coating material having a spray coating thickness, a sprayed service area thickness equaling said plated service area thickness plus said spray coating thickness.
2. The method of claim 1 wherein said preparing step further comprising:
 - cleaning said tool service area.
3. The method of claim 1 wherein said preparing step further comprising:
 - abrading said tool service area to remove inconsistencies and reduce said tool service area thickness to said beginning tool service area thickness as needed.

4. The method of claim 1 wherein said plating step further comprising:
at least one transitional finishing step to remove inconsistencies in said at least one layer of plate coating material.
5. The method of claim 4 wherein said transitional finishing step further comprising:
abrading said at least one layer of plate coating material to remove inconsistencies and reduce said plate coating thickness to achieve a desired said plated service area thickness.
6. The method of claim 4 wherein said transitional finishing step further comprising:
baking said at least one layer of plate coating material.
7. The method of claim 1 wherein said plating step further comprising:
at least one subsequent plating step to increase said plate coating thickness and achieve plate layer requirements.
8. The method of claim 1 wherein said plating step further comprising:
at least one transitional evaluating step to inspect said tool service area and said tool service area thickness for compliance with plate layer requirements.
9. The method of claim 1 wherein said spraying step further comprising:
at least one transitional finishing step to remove inconsistencies in said at least one layer of spray coating material.

10. The method of claim 9 wherein said transitional finishing step further comprising:

 abrading said at least one layer of spray coating material to remove inconsistencies
 and reduce said spray coating thickness to achieve a desired said sprayed service area
 thickness.
11. The method of claim 1 wherein said spraying step further comprising:

 at least one subsequent spraying step to increase said spray coating thickness and
 achieve spray layer requirements.
12. The method of claim 1 wherein said spraying step further comprising:

 at least one transitional evaluating step to inspect said tool service area and said tool
 service area thickness for compliance with spray layer requirements.
13. The method of claim 1 further comprising:

 a final finishing step after said spraying step to achieve said tool serviceability
 requirements.
14. The method of claim 13 wherein said final finishing step further comprising:

 cleaning said composite tool coating to remove foreign substances and materials.
15. The method of claim 13 wherein said final finishing step further comprising:

 polishing said composite tool coating to remove slight inconsistencies.

16. The method of claim 13 wherein said final finishing step further comprising:

evaluating said composite tool coating, said tool service area and said tool service area thickness for compliance with said tool serviceability requirements.

17. A composite tool coating method for a tool service area having a tool service area thickness and a tool serviceability requirement, said tool service area having a base metal component and a plate coating layer, said method comprising:

preparing said tool service area for coating, said tool service area having a beginning said tool service area thickness; and

spraying at least one layer of spray coating material to said plate coating layer, said at least one layer of spray coating material having a spray coating thickness, a sprayed service area thickness equaling said beginning tool service area thickness plus said spray coating thickness.

18. The method of claim 17 wherein said spraying step further comprising:

at least one transitional finishing step to remove inconsistencies in said at least one layer of spray coating material.

19. The method of claim 18 wherein said transitional finishing step further comprising:

abrading said at least one layer of spray coating material to remove inconsistencies and reduce said spray coating thickness to achieve a desired said sprayed service area thickness.

20. The method of claim 17 wherein said spraying step further comprising:
at least one subsequent spraying step to increase said spray coating thickness and achieve spray layer requirements.
21. The method of claim 17 wherein said spraying step further comprising:
at least one transitional evaluating step to inspect said tool service area and said tool service area thickness for compliance with spray layer requirements.
22. The method of claim 17 further comprising:
a final finishing step after said spraying step to achieve said tool serviceability requirements.
23. The method of claim 22 wherein said final finishing step further comprising:
cleaning said composite tool coating to remove foreign substances and materials.
24. The method of claim 22 wherein said final finishing step further comprising:
polishing said composite tool coating to remove slight inconsistencies.
25. The method of claim 22 wherein said final finishing step further comprising:
evaluating said composite tool coating, said tool service area and said tool service area thickness for compliance with said tool serviceability requirements.